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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,486	01/26/2005	Ryuichi Kanamura	09792909-6090	3837
26263 7590 06/28/2007 SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 WACKER DRIVE STATION, SEARS TOWER CHICAGO, IL 60606-1080			EXAMINER PHAM, THANHHA S	
			ART UNIT 2813	PAPER NUMBER
			MAIL DATE 06/28/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/522,486

Applicant(s)

KANAMURA, RYUICHI

Examiner

Thanhha Pham

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 2-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/26/05</u> , _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

This Office Action is in response to Applicant's Election dated 4/10/2007.

### *Election/Restrictions*

1. Claims 2-8 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/9/2007.
2. Applicant's election without traverse of claim 1 in the reply filed on 4/9/2007 is acknowledged.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

► With respect to claim 1,

lines 8-20, "a step of patterning the uppermost etching mask forming layer, thereby forming the uppermost mask layer, etching the next stage etching mask forming layer under the uppermost etching mask forming layer through the uppermost layer mask, thereby forming the next stage etching mask, etching the

next stage etching mask forming layer after next through the next stage etching mask, thereby forming the next stage etching mask after next, and sequentially etching the etching mask forming layer under the etching mask forming layer formed thereon through the etching mask formed through the etching mask forming layer formed thereon, thereby forming the etching mask” renders the claim indefinite. Limitations “the uppermost etching mask forming layer”, “the next stage etching mask forming layer” and “the next stage etching mask forming layer after next” lack antecedent basis. It is not clear that “the uppermost etching mask forming layer”, “the next stage etching mask forming layer” and “the next stage etching mask forming layer after next” come from and are located. In addition, scope of claim can not be defined since claimed language is so confused. It is not clear which element actually forms the etching mask -- “the uppermost etching mask forming layer”, “the uppermost mask layer”, “the next stage etching mask forming layer”, “the next stage etching mask”, “the next stage etching mask forming layer after next” OR “the next stage etching mask after next”?

lines 21-29, “a step of etching the interlayer insulating film through the thus formed etching mask, thereby forming the wiring groove and the connecting hole, with one etching mask forming layer out of the three or more etching mask forming layers being formed as the mask forming layer for the wiring groove pattern and one etching mask forming layer out of the remaining layers being formed as the mask forming layer for the connecting hole pattern” renders the

claim indefinite. Limitations of “the wiring groove”, “the connecting hole”, “the wiring groove pattern” and “the connecting hole pattern” lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**4. Claim 1, as being best understood, is rejected under 35 U.S.C. 102(b) as being anticipated by Usami [2002/0009873].**

Usami (figs 7's, text [0001]-[0104]) discloses the claimed process for production of a semiconductor device having interlayer insulating films including an organic insulating film, said process comprising:

sequentially forming on an interlayer insulating film (148, fig 7A) three or more etching mask forming layers (150, 152 & 154) consisting of mutually different two or more kinds of film, said three or more etching forming layers comprising an uppermost etching mask forming layer (154), a middle mask forming layer (152) and a lowermost mask forming layer (150);

patterning (figs 7A-7I) said uppermost etching mask forming layer (154), said middle mask forming layer (152) and said lowermost mask forming layer (150) to form an etching mask (fig 7I) comprising an uppermost etching mask layer, a middle mask layer and a lowermost mask layer; and

etching said interlayer insulating film through thus formed etching mask (150/152/154) thereby forming a wiring groove and a connecting hole in said interlayer insulating film (figs 7J-7N), with one etching mask forming layer out of the three or more etching mask forming layers being formed as a mask forming layer for a wiring groove pattern and one etching mask forming layer out of the remaining layers being formed as a mask forming layer for a connecting hole pattern.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanhha Pham whose telephone number is (571) 272-1696. The examiner can normally be reached on Monday and Thursday 9:00AM - 9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

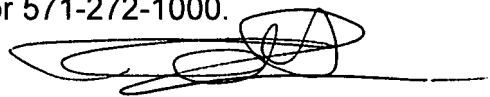
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'THANHHA S. PHAM', with a horizontal line extending to the right.

THANHHA S. PHAM  
PRIMARY EXAMINER

TSP